

Notice of Allowability

Application No.

10/597,945

Examiner

Vinod Kumar

Applicant(s)

KWAK ET AL.

Art Unit

1638

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to claim amtd (1/25/08) & interview of 01/31/08.
2. ☒ The allowed claim(s) is/are 11-20.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>same</u> . |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date <u>8/11/2006</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other ____. |

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Joseph Hyosuk Kim (Reg. No. 41,425) on January 31, 2008.

In the claims:

Claim 11. (amended) An isolated DNA sequence having multiple [stress resistant] stress-inducible promoter activity, which comprises a base sequence [represented by nucleotides 2324 to 2433 of SEQ ID NO:11] selected from the group consisting of base sequences represented by SEQ ID NOS:2-11.

Claim 12. (amended) The DNA sequence according to claim 11, wherein the DNA sequence comprises a base sequence represented by nucleotides 2324 to 2433 of SEQ ID NO:11 [is selected from the group consisting of base sequences represented by SEQ ID NOS:2-11].

Claim 13 (amended) An expression vector for mass-production of a multiple stress-resistant substance [or other valuable substances], wherein a promoter sequence selected from the group consisting of base sequences represented by SEQ ID NOS:2-11, a coding sequence for [a target valuable] the multiple stress-resistance substance and a terminator sequence are included in that order.

Claim 14. (amended) Transgenic cells for mass-production of a multiple stress-resistant substance [or other valuable substances], which are prepared by transfecting host plant cells with the expression vector of claim 13 and allowing expression of the multiple stress-resistant substance.

Claim 15. (amended) The transgenic cells as set forth in claim 14, wherein the host plant cells are the cells of a plant selected from the group consisting of tobacco, [major agricultural crops such as] rice, sweet potato, [etc,] and [medicinal plants including] ginseng.

Claim 16. (amended) The transgenic cells as set forth in claim 14, wherein the cells are prepared by transfecting tobacco cells with [an] the expression vector containing a base sequence represented by SEQ ID NO:9 [(Accession No: KCTC 10594BP)].

Claim 17. (amended) A transgenic plant for mass-production of a multiple stress-resistant substance [or other valuable substances], which is prepared by transfecting a host plant with [an] the expression vector of claim 13 using an [Agrobacterium] Agrobacterium.

Claim 18. (amended) The transgenic plant as set forth in claim 17, wherein the stress is selected from the group consisting of wounding, methyl viologen, hydrogen peroxide, NaCl, methyljasmonate, abscisic acid, [non-biological stress ($\leq 15^{\circ}\text{C}$ or $\geq 37^{\circ}\text{C}$)] and pathogenic bacteria [(*Pectobacterium chrysanthemi*)].

Claim 19. (amended) A [preparation] method of preparing a transgenic plant for mass-production of a multiple stress-resistant substance [or other valuable substances]

comprising the following steps:

[1)] (a) [C]constructing an expression vector containing [each] one of [a] the promoter sequences selected from the group consisting of base sequences represented by SEQ ID NOS:2-11, the multiple stress-resistant [a target valuable] substance coding sequence and a transcription terminator sequence; and

[2)] (b) [T]transfecting a host plant with the expression vector of the above step [1)] (a) using an *Agrobacterium*, and wherein said multiple stress-resistant substance is expressed under the control of one of the promoter sequences of (a) in the plant and results in the mass production of said multiple stress-resistant substance.

Claim 20. (amended) The transgenic cells as set forth in claim 15, wherein the cells are prepared by transfecting tobacco cells with [an] the expression vector containing a base sequence represented by SEQ ID NO:9 [(Accession No: KCTC 10594BP)].

Applicant authorized Examiner's Amendment to remove 35 U.S.C 112, second paragraph related issues.

REASONS FOR ALLOWANCE

2. The following is an examiner's statement of reasons for allowance: The closest prior art (Olek et al., US Patent Publication No. 20030186277, Published October 2, 2003, Filed May 29, 2003) teaches a nucleotide sequence (SEQ ID NO: 1) having about 4.0% sequence identity to instant SEQ ID NOs: 2-11, and with no known promoter activity. The closest prior art does not teach or suggest a nucleotide sequence of SEQ

Art Unit: 1638

ID NOs: 2-11. The closest prior art does not teach or suggest a transgenic plant comprising a nucleotide sequence of instant SEQ ID NOs: 2-11. The claimed invention is free of the prior art, has a utility, is enabled, and is adequately described.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusions

3. Claims 11-20 are allowed.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vinod Kumar whose telephone number is (571) 272-4445. The examiner can normally be reached on 8.30 a.m. to 5.00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached on (571) 272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Phuong T. Bui/

Primary Examiner, Art Unit 1638